Felman Production, LLC

West Virginia Department of Environmental Protection
Division of Air Quality

Rule 13 Temporary Permit Application
Inductotherm Induction Furnace

April 2015

Steve
13-3244T
053-00004

Thursday, April 09, 2015

Director
WVDEP, Division of Air Quality 601 - 57th Street
Charleston, West Virginia 25304

Re: Rule 13 / Temporary Permit Application
Felman Production, Inc., New Haven, West Virginia

Dear Director;
Felman Production, LLC has prepared the attached Rule 13 / Temporary Permit Application for the Felman Production, Letart Facility in New Haven, West Virginia (Plant ID No. 03-54-05300004).

Project Description
Felman Production, Inc. is applying for a Rule 13 Permit for the temporary installation of a INDUCTOTHERM Induction Furnace. The System is being used to test the ability to melt metal fines. The proposed system will be used to recover metal at the site.

Emissions
PE shall not exceed the PM listed below based on the 0.40 lb PE/ton limit established in 40 CFR Part 63, for Group 1 furnaces receiving only clean charges.
PM – 10.33 TPY
PM10 – 4.89 TPY
PM2.5 – 1.54 TPY

Visible PE from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.

Regulatory Analysis
40 CFR Part 63, Subpart RRR --- Is there a Group 1 Furnace Standard for Ferroalloys?????

Legal Advertisement
The public notice was delivered to *The Point Pleasant Register* for publication. The legal advertisement will be forwarded to your office as soon as we have received the original affidavit from the newspaper.

If any additional information is needed, please contact me by telephone at (304) 882-1181 or by e-mail at carri@obrienssafetyservices.com.

Sincerely,

Carri Coleman Tucker
Senior Environmental Specialist

Attachment: Rule 13 Temporary Permit Application

cc: Mr. Phil Gardner, Felman Production, Inc.

Table of Contents

Application for Permit

Attachments

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF AIR QUALITY

601 57th Street, SE
Charleston, WV 25304
(304) 926-0475
www.dep.wv.gov/daq

APPLICATION FOR NSR PERMIT AND TITLE V PERMIT REVISION (OPTIONAL)

PLEASE CHECK ALL THAT APPLY TO NSR (45CSR13) (IF KNOWN):

☐ CONSTRUCTION ☐ MODIFICATION ☐ RELOCATION
☐ CLASS I ADMINISTRATIVE UPDATE ☒ TEMPORARY
☐ CLASS II ADMINISTRATIVE UPDATE ☐ AFTER-THE-FACT

PLEASE CHECK TYPE OF 45CSR30 (TITLE V) REVISION (IF ANY):

☐ ADMINISTRATIVE AMENDMENT ☒ MINOR MODIFICATION
☐ SIGNIFICANT MODIFICATION

IF ANY BOX ABOVE IS CHECKED, INCLUDE TITLE V REVISION INFORMATION AS ATTACHMENT S TO THIS APPLICATION

FOR TITLE V FACILITIES ONLY: Please refer to "Title V Revision Guidance" in order to determine your Title V Revision options (Appendix A, "Title V Permit Revision Flowchart") and ability to operate with the changes requested in this Permit Application.

Section I. General

1. Name of applicant *(as registered with the WV Secretary of State's Office)*:
Felman Production LLC

2. Federal Employer ID No. *(FEIN)*:
020761849

3. Name of facility *(if different from above)*:
Felman Production, Letart Facility

4. The applicant is the:
☐ OWNER ☐ OPERATOR ☒ BOTH

5A. Applicant's mailing address:
4442 Graham Station Rd.
Letart, WV 25253-8701

5B. Facility's present physical address:
US Route 62 North
New Haven, WV

6. **West Virginia Business Registration.** Is the applicant a resident of the State of West Virginia? ☒ YES ☐ NO
- If **YES**, provide a copy of the **Certificate of Incorporation/Organization/Limited Partnership** (one page) including any name change amendments or other Business Registration Certificate as **Attachment A.**
- If **NO**, provide a copy of the **Certificate of Authority/Authority of L.L.C./Registration** (one page) including any name change amendments or other Business Certificate as **Attachment A.**

7. If applicant is a subsidiary corporation, please provide the name of parent corporation:

8. Does the applicant own, lease, have an option to buy or otherwise have control of the *proposed site*? ☒ YES ☐ NO
- If **YES**, please explain: Owns property
- If **NO**, you are not eligible for a permit for this source.

9. Type of plant or facility (stationary source) to be **constructed, modified, relocated, administratively updated or temporarily permitted** (e.g., coal preparation plant, primary crusher, etc.): ***Requesting temporary permit to run a trial melting SiMn fines in an induction furnace for reuse in production***

10. North American Industry Classification System (NAICS) code for the facility:
331112/331492

11A. DAQ Plant ID No. (for existing facilities only):
03-54-05300004

11B. List all current 45CSR13 and 45CSR30 (Title V) permit numbers associated with this process (for existing facilities only):
R13-2857D, R13-3073, R30-05300004-2013

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

12A.

- For **Modifications, Administrative Updates** or **Temporary permits** at an existing facility, please provide directions to the *present location* of the facility from the nearest state road;
- ***Approximately 4 miles east of New Haven adjacent to US Route 33.***
- For **Construction or Relocation permits,** please provide directions to the *proposed new site location* from the nearest state road. Include a **MAP as Attachment B.**
- ***Attached***

12.B. New site address (if applicable):	12C. Nearest city or town:	12D. County:
N/A	New Haven, WV	Mason
12.E. UTM Northing (KM): 4312.468	12F. UTM Easting (KM): 419.73	12G. UTM Zone: 17

13. Briefly describe the proposed change(s) at the facility: To run a trial of fines melting to recover metal using an induction furnace. If trial is successful will request permanent permit.

14A. Provide the date of anticipated installation or change: 04/01/2014 – If this is an **After-The-Fact** permit application, provide the date upon which the proposed change did happen: / /	14B. Date of anticipated Start-Up if a permit is granted: 06/01/2015

14C. Provide a **Schedule** of the planned **Installation of/Change** to and **Start-Up** of each of the units proposed in this permit application as **Attachment C** (if more than one unit is involved). ***Attached***

15. Provide maximum projected **Operating Schedule** of activity/activities outlined in this application:
Hours Per Day **24** Days Per Week **7** Weeks Per Year ***52***

16. Is demolition or physical renovation at an existing facility involved? ☒ **YES** ☐ **NO**

17. **Risk Management Plans.** If this facility is subject to 112(r) of the 1990 CAAA, or will become subject due to proposed changes (for applicability help see www.epa.gov/ceppo), submit your **Risk Management Plan (RMP)** to U. S. EPA Region III.

18. **Regulatory Discussion.** List all Federal and State air pollution control regulations that you believe are applicable to the proposed process *(if known)*. A list of possible applicable requirements is also included in Attachment S of this application (Title V Permit Revision Information). Discuss applicability and proposed demonstration(s) of compliance *(if known)*. Provide this information as **Attachment D.**

Section II. Additional attachments and supporting documents.

19. Include a check payable to WVDEP – Division of Air Quality with the appropriate **application fee** (per 45CSR22 and 45CSR13).

20. Include a **Table of Contents** as the first page of your application package.

21. Provide a **Plot Plan,** e.g. scaled map(s) and/or sketch(es) showing the location of the property on which the stationary source(s) is or is to be located as **Attachment E** (Refer to ***Plot Plan Guidance***) .

– Indicate the location of the nearest occupied structure (e.g. church, school, business, residence).

22. Provide a **Detailed Process Flow Diagram(s)** showing each proposed or modified emissions unit, emission point and control device as **Attachment F.**

23. Provide a **Process Description** as **Attachment G.**

– Also describe and quantify to the extent possible all changes made to the facility since the last permit review (if applicable).

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

24. Provide **Material Safety Data Sheets (MSDS)** for all materials processed, used or produced as **Attachment H.**

– For chemical processes, provide a MSDS for each compound emitted to the air.

25. Fill out the **Emission Units Table** and provide it as **Attachment I.**

26. Fill out the **Emission Points Data Summary Sheet (Table 1 and Table 2)** and provide it as **Attachment J.**

27. Fill out the **Fugitive Emissions Data Summary Sheet** and provide it as **Attachment K.**

28 Check all applicable **Emissions Unit Data Sheets** listed below:

☐ Bulk Liquid Transfer Operations ☐ Haul Road Emissions ☐ Quarry
☐ Chemical Processes ☐ Hot Mix Asphalt Plant ☒ Solid Materials Sizing, Handling and Storage Facilities
☐ Concrete Batch Plant ☐ Incinerator
☐ Grey Iron and Steel Foundry ☐ Indirect Heat Exchanger ☐ Storage Tanks
☒ General Emission Unit, specify ***Induction Furnace***

Fill out and provide the **Emissions Unit Data Sheet(s)** as **Attachment L.**

29. Check all applicable **Air Pollution Control Device Sheets** listed below:

☐ Absorption Systems ☐ Baghouse ☐ Flare
☐ Adsorption Systems ☐ Condenser ☐ Mechanical Collector
☐ Afterburner ☐ Electrostatic Precipitator ☐ Wet Collecting System
☐ Other Collectors, specify ***N/A***

Fill out and provide the **Air Pollution Control Device Sheet(s)** as **Attachment M.**

30. Provide all **Supporting Emissions Calculations** as **Attachment N,** or attach the calculations directly to the forms listed in Items 28 through 31.

31. **Monitoring, Recordkeeping, Reporting and Testing Plans.** Attach proposed monitoring, recordkeeping, reporting and testing plans in order to demonstrate compliance with the proposed emissions limits and operating parameters in this permit application. Provide this information as **Attachment O.**

➢ Please be aware that all permits must be practically enforceable whether or not the applicant chooses to propose such measures. Additionally, the DAQ may not be able to accept all measures proposed by the applicant. If none of these plans are proposed by the applicant, DAQ will develop such plans and include them in the permit.

32. **Public Notice.** At the time that the application is submitted, place a **Class I Legal Advertisement** in a newspaper of general circulation in the area where the source is or will be located (See 45CSR§13-8.3 through 45CSR§13-8.5 and ***Example Legal Advertisement*** for details). Please submit the **Affidavit of Publication as Attachment P** immediately upon receipt.

33. **Business Confidentiality Claims.** Does this application include confidential information (per 45CSR31)?

☐ **YES** ☒ **NO**

➢ If **YES,** identify each segment of information on each page that is submitted as confidential and provide justification for each segment claimed confidential, including the criteria under 45CSR§31-4.1, and in accordance with the DAQ's ***"Precautionary Notice – Claims of Confidentiality"*** guidance found in the ***General Instructions*** as **Attachment Q.**

Section III. Certification of Information

34. **Authority/Delegation of Authority.** Only required when someone other than the responsible official signs the application. Check applicable **Authority Form** below:

☐ Authority of Corporation or Other Business Entity ☐ Authority of Partnership
☐ Authority of Governmental Agency ☐ Authority of Limited Partnership

Submit completed and signed **Authority Form as Attachment R.**

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

35A. **Certification of Information.** To certify this permit application, a Responsible Official (per 45CSR§13-2.22 and 45CSR§30-2.28) or Authorized Representative shall check the appropriate box and sign below.

Certification of Truth, Accuracy, and Completeness

I, the undersigned ☒ **Responsible Official** / ☐ **Authorized Representative,** hereby certify that all information contained in this application and any supporting documents appended hereto, is true, accurate, and complete based on information and belief after reasonable inquiry I further agree to assume responsibility for the construction, modification and/or relocation and operation of the stationary source described herein in accordance with this application and any amendments thereto, as well as the Department of Environmental Protection, Division of Air Quality permit issued in accordance with this application, along with all applicable rules and regulations of the West Virginia Division of Air Quality and W.Va. Code § 22-5-1 et seq. (State Air Pollution Control Act). If the business or agency changes its Responsible Official or Authorized Representative, the Director of the Division of Air Quality will be notified in writing within 30 days of the official change.

Compliance Certification

Except for requirements identified in the Title V Application for which compliance is not achieved, I, the undersigned hereby certify that, based on information and belief formed after reasonable inquiry, all air contaminant sources identified in this application are in compliance with all applicable requirements.

SIGNATURE Phil P Gardner *(Please use blue ink)* DATE: 4/9/15 *(Please use blue ink)*

35B. Printed name of signee: Phil Gardner		35C. Title: Plant Manager
35D. E-mail: pgardner@fpiwv.com	36E. Phone: 304-882-1161	36F. FAX: 304-882-3853
36A. Printed name of contact person (if different from above): Carri Coleman Tucker		36B. Title: EHS Consultant
36C. E-mail: carri@obrienssafetyservices.com	36D. Phone: 304-834-8994	36E. FAX: 304-863-6145

PLEASE CHECK ALL APPLICABLE ATTACHMENTS INCLUDED WITH THIS PERMIT APPLICATION:

- ☒ Attachment A: Business Certificate
- ☒ Attachment B: Map(s)
- ☒ Attachment C: Installation and Start Up Schedule
- ☒ Attachment D: Regulatory Discussion
- ☒ Attachment E: Plot Plan
- ☒ Attachment F: Detailed Process Flow Diagram(s)
- ☒ Attachment G: Process Description
- ☒ Attachment H: Material Safety Data Sheets (MSDS)
- ☒ Attachment I: Emission Units Table
- ☒ Attachment J: Emission Points Data Summary Sheet
- ☐ Attachment K: Fugitive Emissions Data Summary Sheet
- ☒ Attachment L: Emissions Unit Data Sheet(s)
- ☐ Attachment M: Air Pollution Control Device Sheet(s)
- ☒ Attachment N: Supporting Emissions Calculations
- ☒ Attachment O: Monitoring/Recordkeeping/Reporting/Testing Plans
- ☐ Attachment P: Public Notice
- ☐ Attachment Q: Business Confidential Claims
- ☐ Attachment R: Authority Forms
- ☒ Attachment S: Title V Permit Revision Information
- ☒ Application Fee

Please mail an original and three (3) copies of the complete permit application with the signature(s) to the DAQ, Permitting Section, at the address listed on the first page of this application. Please DO NOT fax permit applications.

FOR AGENCY USE ONLY – IF THIS IS A TITLE V SOURCE:

- ☐ *Forward 1 copy of the application to the Title V Permitting Group and:*
- ☐ *For Title V Administrative Amendments:*
  - ☐ *NSR permit writer should notify Title V permit writer of draft permit,*
- ☐ *For Title V Minor Modifications:*
  - ☐ *Title V permit writer should send appropriate notification to EPA and affected states within 5 days of receipt,*
  - ☐ *NSR permit writer should notify Title V permit writer of draft permit.*
- ☐ *For Title V Significant Modifications processed in parallel with NSR Permit revision:*
  - ☐ *NSR permit writer should notify a Title V permit writer of draft permit,*
  - ☐ *Public notice should reference both 45CSR13 and Title V permits,*
  - ☐ *EPA has 45 day review period of a draft permit.*

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

Attachment A
Certificate of Incorporation/Organization/Limited Partnership Business Registration Certificate

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WEST VIRGINIA
STATE TAX DEPARTMENT
BUSINESS REGISTRATION CERTIFICATE

ISSUED TO:
FELMAN PRODUCTION LLC
RR 3 BOX 127
LETART, WV 25253-9726

BUSINESS REGISTRATION ACCOUNT NUMBER: **1006-0584**

This certificate is issued on: **01/23/2013**

This certificate is issued by
the West Virginia State Tax Commissioner
in accordance with Chapter 11, Article 12, of the West Virginia Code

The person or organization identified on this certificate is registered to conduct business in the State of West Virginia at the location above.

This certificate is not transferrable and must be displayed at the location for which issued.

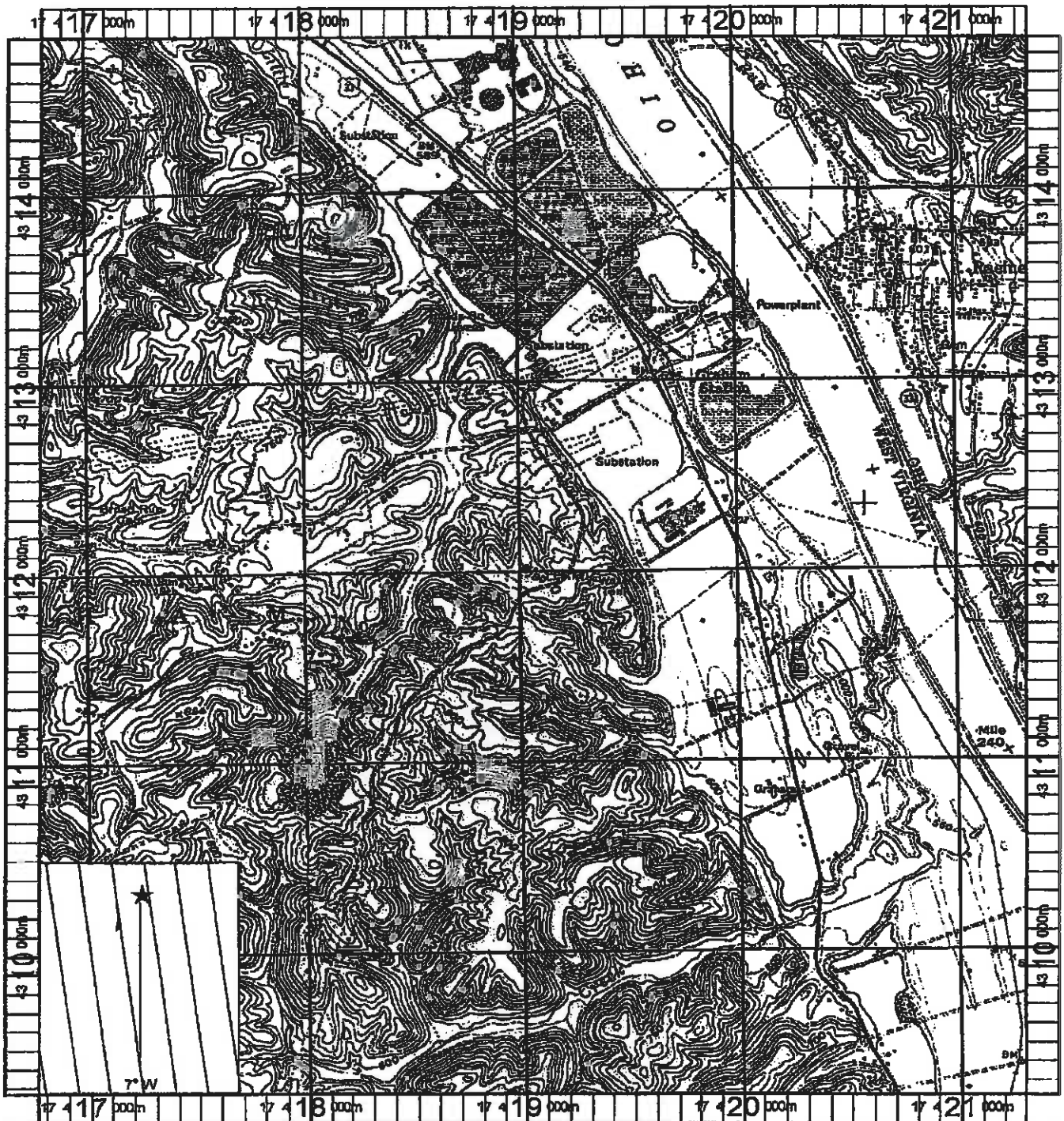
This certificate shall be permanent until cessation of the business for which the certificate of registration was granted or until it is suspended, revoked or cancelled by the Tax Commissioner.

Change in name or change of location shall be considered a cessation of the business and a new certificate shall be required.

TRAVELING/STREET VENDORS: Must carry a copy of this certificate in every vehicle operated by them. CONTRACTORS, DRILLING OPERATORS, TIMBER/LOGGING OPERATIONS: Must have a copy of this certificate displayed at every job site within West Virginia.

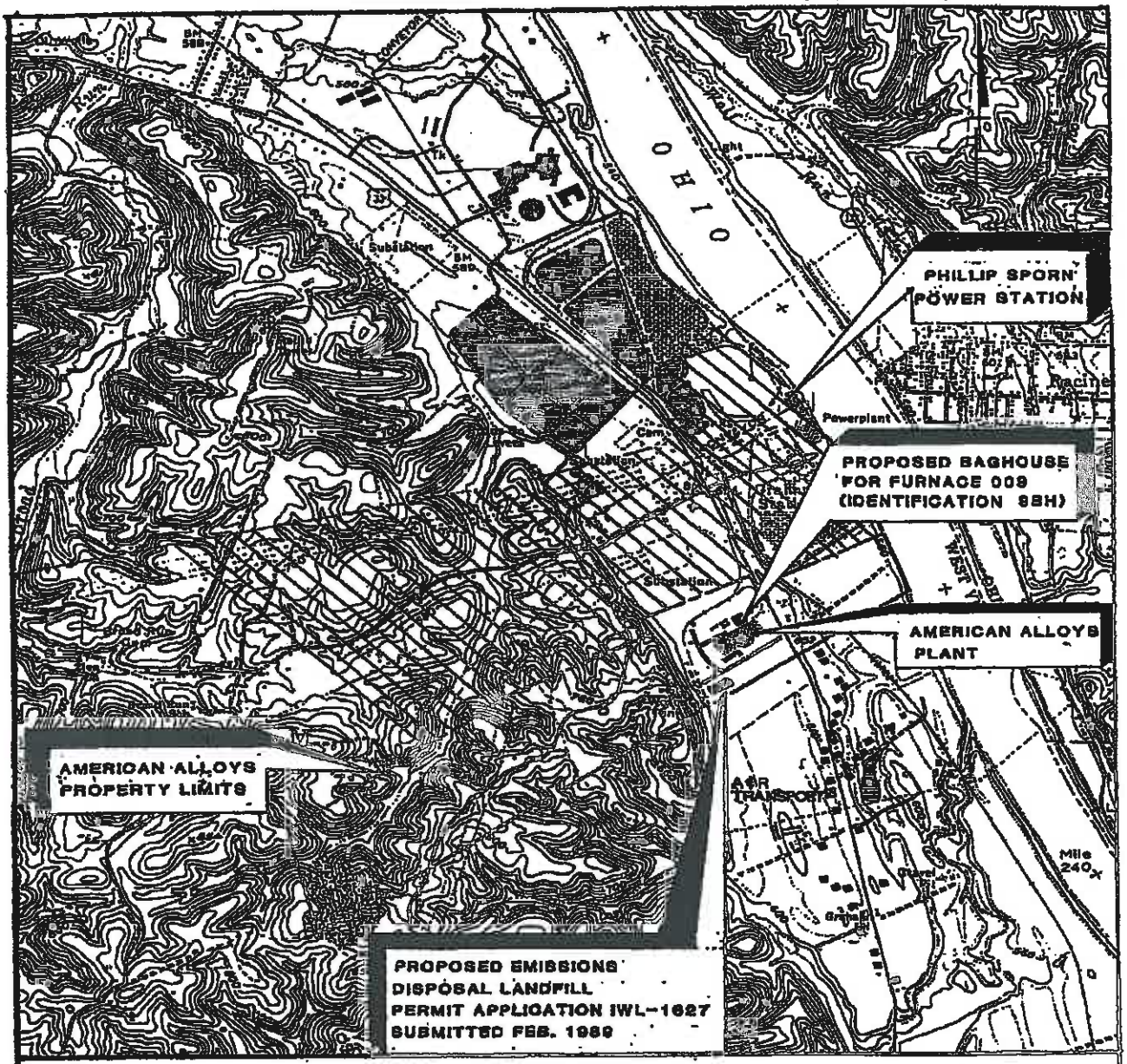
atL006 v.4
L1236966272

Attachment B
Map



Name: NEW HAVEN
Date: 6/10/2010
Scale: 1 inch equals 2000 feet

Location: 17 419054 E 4312028 N



LEGEND

SINGLE/MULTIPLE FAMILY RESIDENCE ■

COMMERCIAL FACILITIES (IDENTIFICATION) ▨

REF.: U.S.G.S. NEW HAVEN QUADRANGLE
SCALE: 1" = 2000'

AMERICAN ALLOYS INC.
NEW HAVEN, WV.

PLANT LOCATION PLAN
AREA LAND USE AND
No. 9 FURNACE BAGHOUSE LOCATION

Attachment C
Installation and Startup Schedule

Felman would like to locate the Inductotherm Induction Furnace at the east end of the main shop building. Felman hopes to test the furnace by early June 2015.

Attachment D
Regulatory Discussion

Based on the proposed unit and its purpose the emissions and production output will not change.

Felman will be testing the Inducotherm electrically powered furnace to reclaim MnSi fines for reuse in the process. The unit was previously permitted at the Ormet facility in Hannibal, Ohio. The information below is directly from the Ohio Title V permit issued by Ohio DAPC.

PE shall not exceed 1.62 lbs/hr and 7.1 tpy based on the 0.40 lb PE/ton limit established in 40 CFR Part 63, Subpart RRR (Secondary Aluminum Production) for Group 1 furnaces receiving only clean charges.

Emissions are not expected to exceed limits established for Group 1, clean-charge only furnaces.

Emission tests also may be required in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5. No emission testing is specifically required to demonstrate compliance with this limit but, if appropriate, may be requested pursuant to … rule

The unit at Felman will not be subject to the 40 CFR Part 63, Subpart RRR. The unit will not be subject to 40 CFR 63, Subpart XXX since it will not be an open submerged arc furnace.

The unit will be subject to 40 CFR 98 Greenhouse Gas reporting, since the furnace will be powered by electric and does not have any combustion emission associated with the operation of the furnace.

The facility is required to comply with the requirements below based on their existing permit.

7.1.2. Total combined throughput of material into the Crusher TMP-CR1 shall not exceed 400 tons per hour nor 143,000 tons per year. Compliance with this limit shall be based on a 12 month rolling total. For the purposes of this permit a 12 month rolling total means the sum of material throughput at the end of any given month for the previous 12 months.
[45CSR13 - R13-3073T, 4.1.2.]

7.1.3. Total combined throughput of material into the Screen TMP-1S shall not exceed 400 tons per hour nor 143,000 tons per year. Compliance with this limit shall be based on a 12 month rolling total.
[45CSR13 - R13-3073T, 4.1.3.]

7.1.4. Of the annual throughput limits in 7.1.2 and 7.1.3, Silicomanganese shall account for no more than 23,000 tpy. Compliance with this limit shall be based on a 12 month rolling total.
[45CSR13 - R13-3073T, 4.1.4.]

7.1.5. Emissions from Crusher TMP-CR1 shall be controlled by use of water sprays.
[45CSR13 - R13-3073T, 4.1.5.]

7 1.6. Emissions from the following equipment shall be controlled by use of a partial enclosure: TMP-H1, TMP-F1, TMP-CR1, TMP-H2, and TMP-1S.
[45CSR13 - R13-3073T, 4.1.6.]

7.1.7. Opacity from any process source operation shall not exceed 20% except for opacity which is less than 40% for a period or periods aggregating no more than 5 minutes in any 60 minute period.
[45CSR§§7-3.1 &3.2, 45CSR13 - R13-3073T, 4.1.7.]

7.1.8. No person shall cause, suffer, allow or permit any manufacturing process or storage structure generating fugitive particulate matter to operate that is not equipped with a system, which may include, but not be limited to, process equipment design, control equipment design or operation and maintenance procedures, to minimize the emissions of fugitive particulate matter. To minimize means such system shall be installed, maintained and operated to ensure the lowest fugitive particulate matter emissions reasonably achievable.
[45CSR§7-5.1, 45CSR13 - R13-3073T, 4.1.8.]

7.1.9. The permittee shall comply with all applicable standards of 40 CFR 63 Subpart XXX including but not limited to Conditions 3.1.15. through 3.1.17. of this permit and the following:
No owner or operator shall cause to be discharged into the atmosphere from any new or reconstructed piece of equipment associated with crushing and screening exhaust gases containing particulate matter in excess of 50 mg/dscm (0.022 gr/dscf).
[45CSR13 - R13-3073T, 4.1.9., 40CFR§63.1652(e)(1), 45CSR34, 45CSR§30-5.1.c.]

7.1.10. Emissions from the screen and crusher engines shall not exceed the following (in g/kW-hr):

	NO_x	$NMHC+NO_x$	CO	PM	NMHC
Screen Engine	--	4.0	5.0	0.3	--
Crusher Engine	0.40	--	3.5	0.02	0.19

[45CSR13 - R13-3073T, 4.1.10., 40CFR§60.4204(b), 45CSR16, and 45CSR§30-5.1.c.]

7.1.11. Total fuel (diesel) consumption for the two engines listed in 7.1.10 of this permit shall not exceed 92,243 gallons per year. Compliance with this limit shall be based on a 12 month rolling total.
[45CSR13 - R13-3073T, 4.1.11.]

7.1.12. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0, under Temporary Equipment, and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR§13-5.11, 45CSR13 - R13-3073T, 4.1.12.]

7.1.13. The permittee shall use diesel fuel that meets the requirements of 40 CFR § 80.510(b).
[40CFR§60.4207(b) and 45CSR16]

Additional Regulatory Requirements:
Standards of the performance for nonmetallic mineral processing plants.
40CFR63, Subpart OOO

National Emission Standards for Hazardous Air Pollutants for Ferroalloy Production: Ferromanganese and Silicomanganese.
40CFR63, Subpart XXX

45CSR4

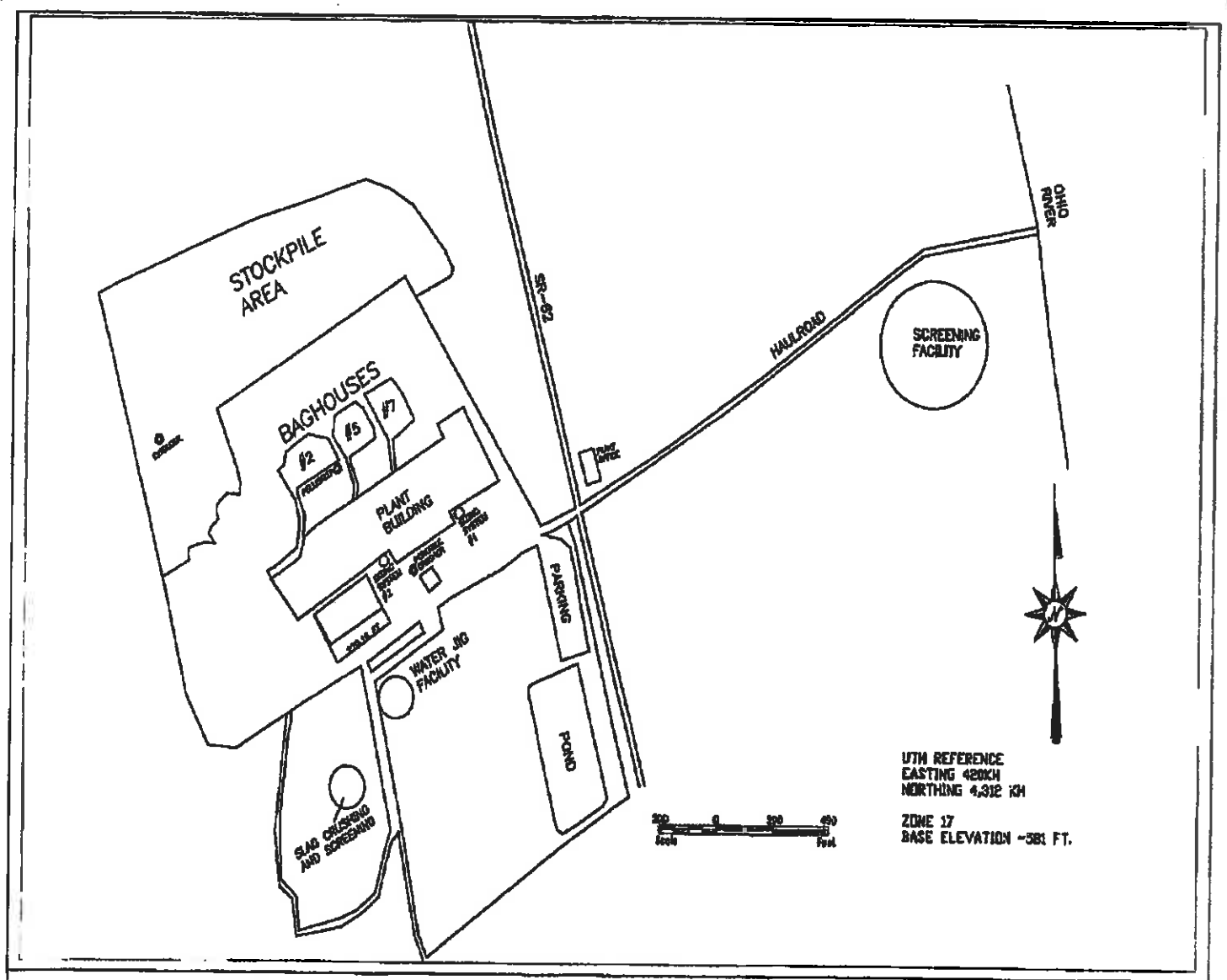
45CSR7

45CSR8

45CSR10

45CSR13

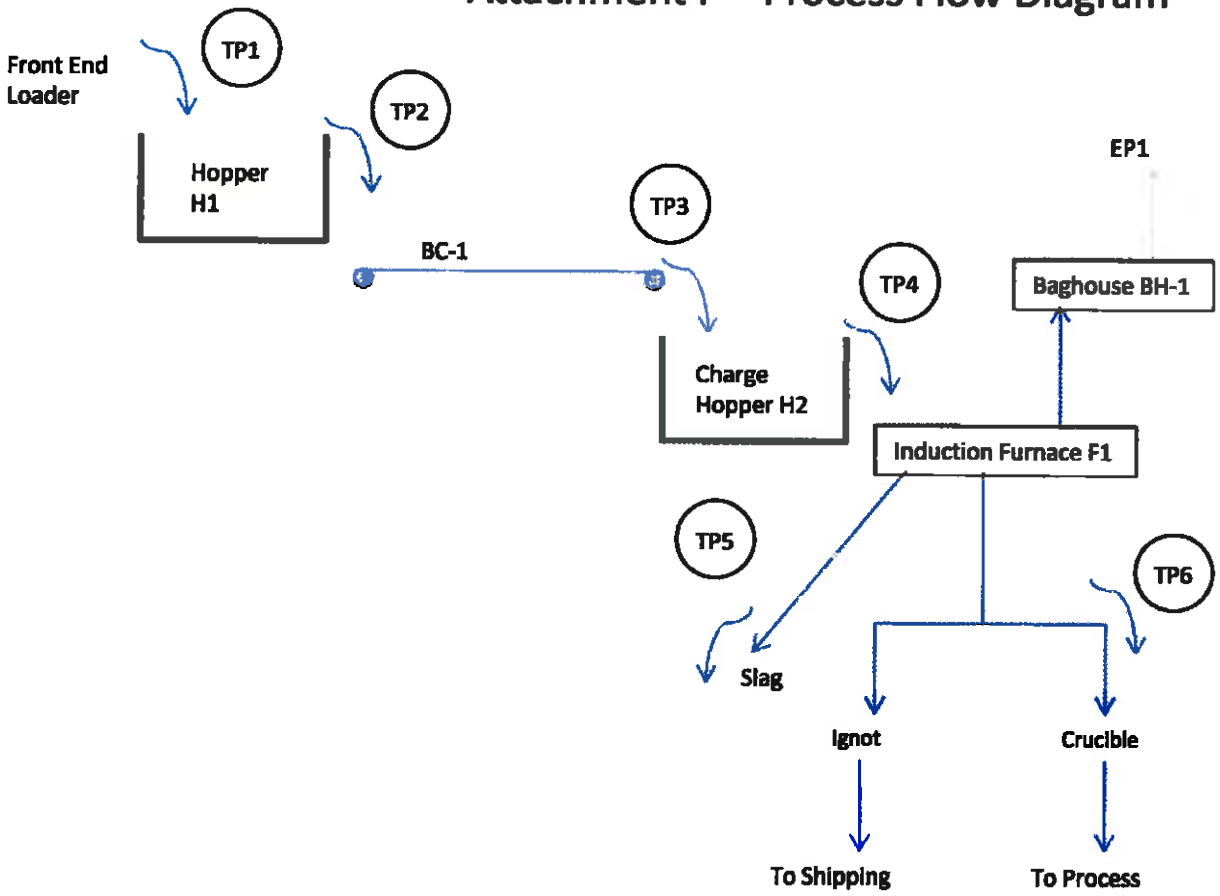
Attachment E
Plot Plan



PLOT PLAN

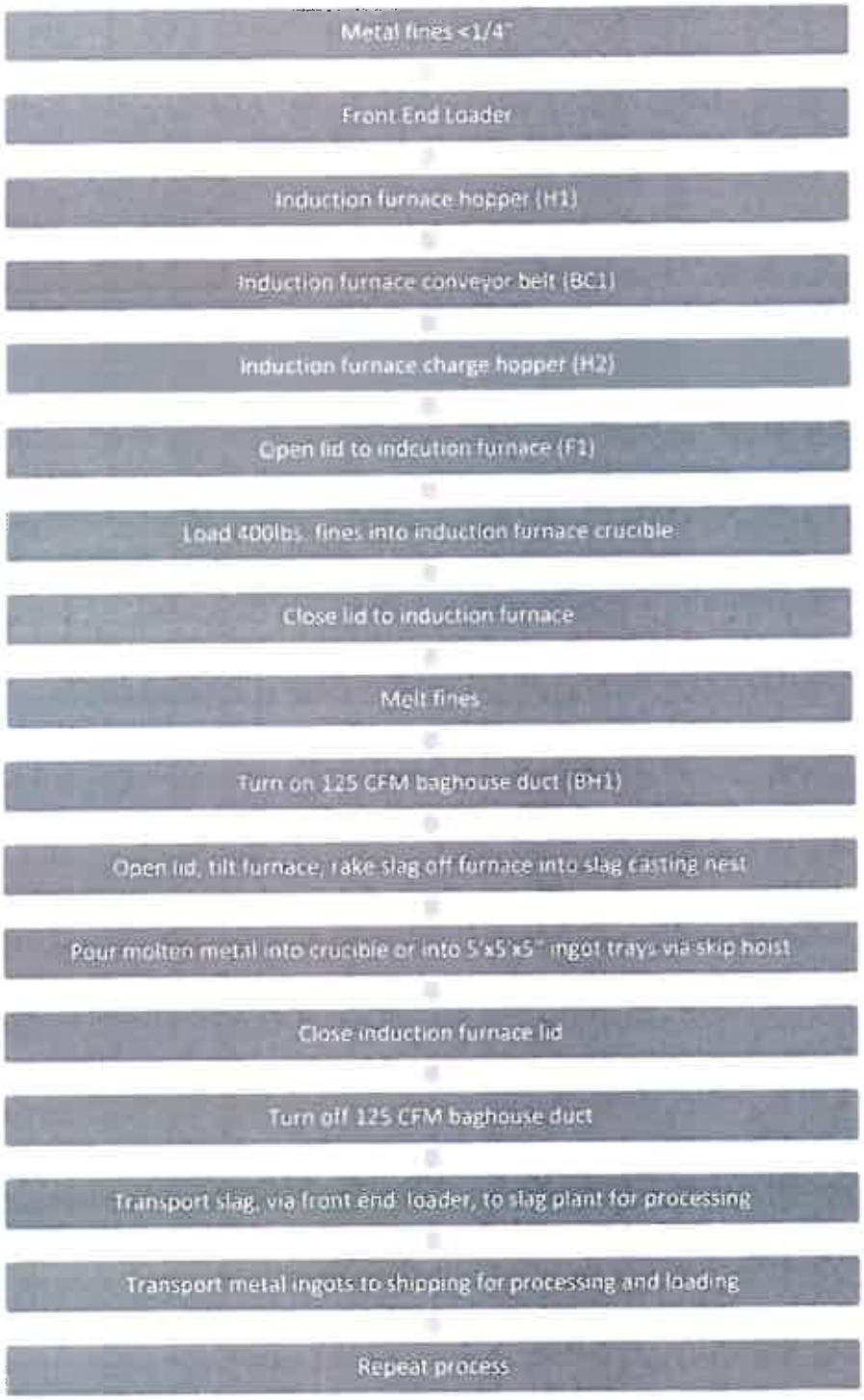
FELMAN PRODUCTION, INC.
LETART, WEST VIRGINIA

Attachment F – Process Flow Diagram



Attachment G
Process Description

Felman Production proposes to re-process metal fines generated from their production process in an electrically heated induction furnace.



Attachment H
Material Safety Data Sheets (MSDS) for Silicomanganese

MATERIAL SAFETY DATA SHEET

Silicomanganese Alloys
Page 1 of 5

MSDS No.: EMI-MA4001
Revised: February 25, 2009

ERAMET COMILOG

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identifier:	**Silicomanganese; Ferromanganese Silicon; Silico**
Product Code:	MA4001, MA4005, MA5001
MANUFACTURER:	Eramet / Comilog Airport Office Park, Bldg. 4, 333 Rouser Road Moon Township, PA 15108-2749
U.S. Phone Number:	(800) 388-7025
EMERGENCY TELEPHONE NUMBER:	CHEMTREC (800) 424-9300

2. COMPOSITION/INFORMATION ON INGREDIENTS [1]

	wt. %	CAS Registry #
Manganese	< 68	7439-96-5
Silicon	< 33	7440-21-3
Iron	< 5.0	7439-89-6
Carbon	< 2.0	7440-44-0
Chromium	< 0.5	7440-47-3
Nickel	< 0.5	7440-02-0

OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200):

	EXPOSURE LIMITS 8 hrs. TWA (mg/m^3)	
	OSHA PEL	ACGIH TLV
Manganese	5 (ceiling)	0.2
Chromium	0.5	0.5
Nickel	1	1

[1] Elemental analysis of the alloy. The manufacturer can provide a more detailed analysis, including other trace elements.

3. HAZARDS IDENTIFICATION

This product does not represent a significant hazard to health, safety or the environment when handled and stored as advised (see Section 7). Repeated, long term inhalation of silicomanganese alloy dust in excess of exposure limits may cause adverse health effects (see Section 11). Flammable and noxious gases may be formed in contact with moisture and/or acids (see Sections 10 and 11). Silicomanganese alloy dust suspended in air may under certain conditions cause dust explosions (see Section 5).

4. FIRST AID MEASURES

INHALATION:
Emergency Responders should use the appropriate respiratory protection when moving an affected victim to fresh air. Give artificial respiration if breathing has stopped. Call for prompt medical attention. (See Section 11)

SKIN CONTACT:
Wash skin with water and/or a mild detergent. If irritation develops, seek medical attention.

EYE CONTACT:
Rinse eyes with large amounts of water/saline solution until no particles remain in eye. See a physician on persistent feeling of discomfort or if irritation occurs.

INGESTION:
Incidental ingestion of small quantities of material fines as a result of inattention to proper personal hygiene does not represent a significant acute hazard. If large amounts are swallowed, get prompt medical attention.

5. FIRE FIGHTING MEASURES

COMBUSTIBILITY:

Silicomanganese alloy, as packaged, is not combustible. When suspended in air, dust of silicomanganese alloy can be ignited, will propagate flame readily, and may generate considerable pressure and/or a mild explosion. Avoid generating sparks or ignition sources in areas of high airborne dust levels or in areas with accumulated dust. The degree of combustibility in air is dependent upon particle size, oxide coating, and quality of dispersion. The hazard increases with particle fineness. Thoroughly clean areas or equipment to be maintained prior to dust disturbing or ignition source generation activities. (see Section 10)

AUTO IGNITION TEMPERATURE (dust layer):

Silicomanganese alloy - 550°F (290°C).

LOWER EXPLOSIVE LEVEL:

Silicomanganese alloy - Greater than 400 g/m^3.

COMBUSTION PRODUCTS:

Oxides of constituent elements.

MINIMUM IGNITION ENERGY:

Manganese metal - 80 millijoules; silicomanganese alloys - not available.

EXTINGUISHING MEDIA:

Class D fire: Use dry powder, dry sand, or CO_2 to smother fire. Fire may also be isolated and allowed to burn itself out. Do not disturb metal while extinguishing the fire. Nitrogen blanket may not extinguish a silicomanganese fire.

6. ACCIDENTAL RELEASE MEASURES

LAND SPILL:

Silicomanganese alloy spilled on the land represents minimal hazard. Cleanup personnel should wear appropriate respiratory protective equipment when addressing fine material.

Avoid the use of compressed air to maneuver spills or leaks of fine material. Fine material should be swept up or vacuumed using explosion-proof equipment. Keep dry material and wet material separated. Place recovered material in disposal container. Avoid repackaging wet materials in sealed containers.

WATER SPILL:

Remove spilled product from water body by dipping, filtering, or other appropriate means. Avoid repackaging wet materials in sealed containers.

7. HANDLING AND STORAGE

HANDLING:

Avoid handling that generates dust build-up. Avoid inhalation of dust (see Section 8). Avoid ignition sources (e.g. welding) in areas with high dust concentrations. Addition of wet product to molten metal may cause explosions (see Section 10).

STORAGE:

Silicomanganese alloy should be stored in a dry location at ambient temperatures. Avoid contact with hydrochloric acid (HCl) and nitric acid (HNO_3).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:

The use of local exhaust ventilation is recommended to control emissions near the source. Provide appropriate ventilation of confined spaces. Use explosion-proof ventilation equipment. See Section 2 for Component Exposure Guidelines.

SKIN CONTACT:

Frequent or prolonged contact may irritate the skin and cause a skin rash (dermatitis).

EYE CONTACT:

Dust may irritate and cause dryness but will not permanently injure eye tissue.

INGESTION:

Minimal hazard in normal industrial use.

CHRONIC EFFECTS:

Manganese poisoning (Manganism) can occur from excessive intake of manganese via inhalation and ingestion. The most notable effects of manganese poisoning are central nervous system disorders which may occur as early as six months after initial exposure. Symptoms include apathy, drowsiness, sleep disturbance, muscular twitching, spastic gait, and emotion control problems. Permanent injury of the central nervous system may occur if chronic manganese poisoning is not treated.

Prolonged exposure (years) to phosphine may lead to chronic effects such as difficulty in movement and speech problems. Epidemiological studies in the Norwegian ferroalloy industry have neither shown an increased rate of mortality, nor an increased incidence of cancer.

Fumes produced through heating metal to high temperatures may be associated with pneumoconiosis. Silicomanganese alloys are not known to be reproductive toxins, teratogens, or mutagens.

POTENTIAL HEALTH EFFECTS:

This product contains chromium in the metallic state. The International Agency for Research on Cancer has determined that chromium and certain chromium compounds are "casually associated with cancer in humans" but "the compounds responsible for the carcinogenic effect in humans cannot be specified". This requires that chromium in all forms be identified as carcinogenic under OSHA. The American Conference of Governmental Industrial Hygienists has reviewed the available data and concluded that specific water soluble and insoluble hexavalent chromium compounds are carcinogenic to humans.

NIOSH/OSHA "Guide for Chemical Hazards" conclusions are consistent with ACGIH; however, NIOSH recommended that all hexavalent chromium compounds be considered carcinogenic until proven otherwise. No recommendations have been made by ACGIH or NIOSH to include chromium metal or chromous and chromic salts as carcinogenic.

The International Agency for Research on Cancer has determined that nickel and certain nickel compounds are "probably carcinogenic to humans" but the nickel compounds responsible for the effect have not been specified. This requires that nickel in all forms be identified as carcinogenic under OSHA. The American Conference of Governmental Industrial Hygienists has reviewed the available data and concluded that not all forms of nickel are carcinogenic. The American Industrial Hygiene Association has also concluded that there is no epidemiological evidence of increased risk of respiratory cancer in the refining of oxide ores or "in any other specifically nickel occupational exposures"

12. ECOLOGICAL INFORMATION

Although silicomanganese alloy is not characterized as a hazard to the land through bulk storage or similar activities, care should be taken to minimize airborne dust generation and prevent material contamination of water systems.

13. DISPOSAL CONSIDERATIONS

Avoid repackaging wet material in sealed containers. Dispose of in accordance with applicable federal, state, and local regulations. Silicomanganese alloy is not a listed or characteristic RCRA Hazardous Waste (40 CFR 261).

Attachment I

Emission Units Table

(includes all emission units and air pollution control devices that will be part of this permit application review, regardless of permitting status)

Emission Unit ID[1]	Emission Point ID[2]	Emission Unit Description	Year Installed/ Modified	Design Capacity	Type[3] and Date of Change	Control Device[4]
H1	H1	Hopper	2015		New	PE
BC-1	BC-1	Belt Conveyor	2015		New	PE
H2	H2	Charge Hopper	2015		New	PE
F1	EP1	Induction Furnace	2015		New	BH-1

[1] For Emission Units (or Sources) use the following numbering system:1S, 2S, 3S,... or other appropriate designation.
[2] For Emission Points use the following numbering system:1E, 2E, 3E, .. or other appropriate designation.
[3] New, modification, removal
[4] For Control Devices use the following numbering system: 1C, 2C, 3C,... or other appropriate designation.

Attachment J
EMISSION POINTS DATA SUMMARY SHEET

Table 1: Emissions Data

Emission Point ID No. *(Must match Emission Units Table & Plot Plan)*	Emission Point Type[1]	Emission Unit Vented Through This Point *(Must match Emission Units Table & Plot Plan)*		Air Pollution Control Device *(Must match Emission Units Table & Plot Plan)*		Vent Time for Emission Unit *(chemical processes only)*		All Regulated Pollutants - Chemical Name/CAS[3] *(Speciate VOCs & HAPS)*	Maximum Potential Uncontrolled Emissions[4]		Maximum Potential Controlled Emissions[5]		Emission Form or Phase *(At exit conditions, Solid, Liquid or Gas/Vapor)*	Est. Method Used[6]	Emission Concentration[7] (ppmv or mg/m^4)
		ID No.	Source	ID No.	Device Type	Short Term[2]	Max (hr/yr)		lb/hr	ton/yr	lb/hr	ton/yr			
H1	Fugitive	H1	Hopper	PE-WS	UDPW	n/a	n/a	PM, PM10, PM2.5	n/a	n/a	n/a	n/a	Solid	EE	n/a
BC1	n/a	BC1	Belt	PE	PE	n/a	n/a	PM, PM10, PM2.5	n/a	n/a	n/a	n/a	Solid	EE	n/a
H2	Fugitive	H1	Hopper	PE-WS	UDPW	n/a	n/a	PM, PM10, PM2.5	n/a	n/a	n/a	n/a	Solid	EE	n/a
F1	Ver. Stack	EP1	Induction Furnace	BH-1	Baghouse	n/a	n/a	PM PM10 PM2.5	1.50 0.71 0.22	6.57 3.11 0.98	0.06 0.03 0.01	0.26 0.12 0.04	Solid	EE	n/a
TP1-TP6	Point source	TP1-6	Trans. Point	Various	Various	n/a	n/a	PM PM10 PM2.5	2.70 1.28 0.40	11.83 5.59 1.76	2.27 1.07 0.34	9.93 4.70 1.48	Solid	EE	n/a

The EMISSION POINTS DATA SUMMARY SHEET provides a summation of emissions by emission unit. Note that uncaptured process emission unit emissions are not typically considered to be fugitive and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions). Please complete the FUGITIVE EMISSIONS DATA SUMMARY SHEET for fugitive emission activities.

[1] Please add descriptors such as upward vertical stack, downward vertical stack, horizontal stack, relief vent, rain cap, etc

[2] Indicate by "C" if venting is continuous. Otherwise, specify the average short-term venting rate with units, for intermittent venting (ie., 15 min/hr). Indicate as many rates as needed to clarify frequency of venting (e.g., 5 min/day, 2 days/wk).

[3] List all regulated air pollutants. Speciate VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. **LIST** Acids, CO, CS_2, VOCs, H_2S, Inorganics, Lead, Organics, O_3, NO, NO_2, SO_2, SO_3, all applicable Greenhouse Gases (including CO_2 and methane), etc. **DO NOT LIST** H_2, H_2O, N_2, O_2, and Noble Gases.

[4] Give maximum potential emission rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

[5] Give maximum potential emission rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

[6] Indicate method used to determine emission rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify)

[7] Provide for all pollutant emissions. Typically, the units of parts per million by volume (ppmv) are used. If the emission is a mineral acid (sulfuric, nitric, hydrochloric or phosphoric) use units of milligram per dry cubic meter (mg/m^3) at standard conditions (68 °F and 29.92 inches Hg) (see 45CSR7). If the pollutant is SO_2, use units of ppmv (See 45CSR10).

Attachment J
EMISSION POINTS DATA SUMMARY SHEET

Table 2: Release Parameter Data

Emission Point ID No. *(Must match Emission Units Table)*	Inner Diameter (ft.)	Exit Gas			Emission Point Elevation (ft)		UTM Coordinates (km)	
		Temp. (°F)	Volumetric Flow [1] (acfm) *at operating conditions*	Velocity (fps)	Ground Level *(Height above mean sea level)*	Stack Height [2] *(Release height of emissions above ground level)*	Northing	Easting
H1	n/a	ambient	n/a	n/a	n/a	n/a	4312.49	419.76
BC1	n/a	ambient	n/a	n/a	n/a	n/a	4312.49	419.76
H2	n/a	ambient	n/a	n/a	n/a	n/a	4312.49	419.76
EP1	n/a	ambient	n/a	n/a	n/a	n/a	4312.49	419.76
TP1-TP6	n/a	ambient	n/a	n/a	n/a	n/a	4312.49	419.76

[1] Give at operating conditions. Include inerts.
[2] Release height of emissions above ground level

Attachment K

FUGITIVE EMISSIONS DATA SUMMARY SHEET

The FUGITIVE EMISSIONS SUMMARY SHEET provides a summation of fugitive emissions. Fugitive emissions are those emissions which could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening. Note that uncaptured process emissions are not typically considered to be fugitive, and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET.

Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions).

APPLICATION FORMS CHECKLIST - FUGITIVE EMISSIONS
1.) Will there be haul road activities? ☒ Yes ☒ No ☐ If YES, then complete the HAUL ROAD EMISSIONS UNIT DATA SHEET.
2.) Will there be Storage Piles? ☐ Yes ☒ No ☐ If YES, complete Table 1 of the NONMETALLIC MINERALS PROCESSING EMISSIONS UNIT DATA SHEET.
3.) Will there be Liquid Loading/Unloading Operations? ☐ Yes ☒ No ☐ If YES, complete the BULK LIQUID TRANSFER OPERATIONS EMISSIONS UNIT DATA SHEET.
4.) Will there be emissions of air pollutants from Wastewater Treatment Evaporation? ☐ Yes ☒ No ☐ If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET.
5.) Will there be Equipment Leaks (e.g. leaks from pumps, compressors, in-line process valves, pressure relief devices, open-ended valves, sampling connections, flanges, agitators, cooling towers, etc.)? ☐ Yes ☒ No ☐ If YES, complete the LEAK SOURCE DATA SHEET section of the CHEMICAL PROCESSES EMISSIONS UNIT DATA SHEET.
6.) Will there be General Clean-up VOC Operations? ☐ Yes ☒ No ☐ If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET.
7.) Will there be any other activities that generate fugitive emissions? ☐ Yes ☒ No ☐ If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET or the most appropriate form.
If you answered "NO" to all of the items above, it is not necessary to complete the following table, "Fugitive Emissions Summary."

FUGITIVE EMISSIONS SUMMARY	All Regulated Pollutants - Chemical Name/CAS [1]	Maximum Potential Uncontrolled Emissions [2]		Maximum Potential Controlled Emissions [3]		Est. Method Used [4]
		lb/hr	ton/yr	lb/hr	ton/yr	
Haul Road/Road Dust Emissions Paved Haul Roads						
Unpaved Haul Roads						
Storage Pile Emissions						
Loading/Unloading Operations						
Wastewater Treatment Evaporation & Operations						
Equipment Leaks		Does not apply		Does not apply		
General Clean-up VOC Emissions						
Other						

[1] List all regulated air pollutants. Speciate VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. LIST Acids, CO, CS_2, VOCs, H_2S, Inorganics, Lead, Organics, O_3, NO, NO_2, SO_2, SO_3, all applicable Greenhouse Gases (including CO_2 and methane), etc. DO NOT LIST H_2, H_2O, N_2, O_2, and Noble Gases.

[2] Give rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

[3] Give rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

[4] Indicate method used to determine emission rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify).

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.
Identification Number (as assigned on *Equipment List Form*): F1

1. Name or type and model of proposed affected source: Induction Furnace [Inductotherm Serial Number 02J 156614 247 11]
2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.
2. Name(s) and maximum amount of proposed process material(s) charged per hour: 3.75 tons/hr MnSi Alloy fines
3. Name(s) and maximum amount of proposed material(s) produced per hour: 3.75 tons/hr MnSi Alloy
4. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants: Not Applicable

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable): Not Applicable

(a) Type and amount in appropriate units of fuel(s) to be burned:

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

(c) Theoretical combustion air requirement (ACF/unit of fuel):

@ °F and psia.

(d) Percent excess air:

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

(g) Proposed maximum design heat input: × 10^6 BTU/hr.

7. Projected operating schedule:

Hours/Day 24	Days/Week 7	Weeks/Year 52

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING	RECORDKEEPING
Throughput Operating hours Use of emission controls	The company will retain records for five (5) years, two (2) years on site, certified by a company official at such time that the DAQ may request records. - Throughput - Operating Hours
REPORTING	**TESTING**
It is proposed the facility be subject to the reporting requirements outlined in Section 3.5, 4.5, and 5.5 of the Title V Permit Number R30-05300004-012 which include an Annual Certified Emission Statement, Annual Title V Compliance Certification, and Semi-Annual Monitoring Report.	Existing Testing: 40CFR60 Subpart OOO requires opacity testing for the screener when it is sizing coal. 40CFR60 Subpart XXX requires an opacity test for the crusher and screen when it is sizing silicomanganese or the slag from production of silicomanganese.

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

The equipment was purchased during a surplus sale and the manufacturer's warranty is no longer applicable. Maintenance manuals were provided at the time of the purchase.

Daily - Check for and correct the following: external and internal water leakage; signs of condensation (wipe clean with lint-free rag); hydraulic leaks; general cleanliness at hydraulic connections; Cleanliness at furnace - do not allow slag or water to touch furnace leads.; Inspect the furnace lining for signs of deterioration, cracks, or metal penetration. Check more often if experience dictates.

Monthly - Remove the inspection panel covers from the furnace; Remove any slag or metal chips that have accumulated inside the steel shell; Check coil for signs of overheating or discoloration; Inspect all water connections for signs of leaks; Wipe all hydraulic rams and check for loose connections. Inspect all hoses and leads for loose connections; Replace the furnace panel covers; Inspect the water and hydraulic filters. Remove and replace if needed; Inspect furnace leads for signs of external water jacket cracks or deterioration; Clean, repair, or replace furnace leads that show signs of excessive oxidation, distortion, cracks, or leaks; Remove and replace connectors that are damaged; Remove and replace hoses that leak or show signs of fatigue. Before returning the furnace to operation, make sure that all cleaning material and flammalble solvents have been removed; Tighten shunt bolts and tie rods per procedure.

Attachment L
Emission Unit Data Sheet
(NONMETALLIC MINERALS PROCESSING)

Control Device ID No. (must match List Form): N/A

Equipment Information

1. Plant Type:
   - ☐ Hot-mix asphalt facility that reduces the size of nonmetallic minerals embedded in recycled asphalt pavement
   - ☐ Plant without crushers or grinding mills and containing a stand-alone screening operation
   - ☐ Sand and gravel plant ☐ Common clay plant
   - ☐ Crushed stone plant ☐ Pumice plant
   - ☒ Other, specify MnSi Fines processing

2. Plant Style: ☐ Fixed Plant ☒ Portable Plant

3. Plant Capacity: 3.75 tons/hr

4. Underground mine: ☐ Yes ☒ No

5. Storage: ☒ Open ☐ Enclosed

6.

Emission Facility Type	Equipment Type Used	ID Number of Emission Unit	Manufacturer	Model Number/ Serial Number	Date of Manufacture
Conveyors	BC - Belt Conv	BC-1	Inductotherm	n/a	
Crusher	NA				
Secondary Crushers	NA				
Tertiary Crushers	NA				
Grinder	NA				
Hoppers	hopper	H1, H2	Inductotherm	n/a	
Rock Drills	NA				
Screens	NA				
Enclosed Storage	NA				
Other					
Other					
Other					

Emission Facility Type	Operation Rate Design Ton/hr	Operation Rate Design Ton/hr	Annual Production Tons/year	Number of Units	Air Pollution Control Device Used
Conveyors	3.75	3.75	32,850	1	PE
Crusher					
Secondary Crushers					
Tertiary Crushers					
Grinder					
Hoppers	3.75	3.75	32,850	2	PE, BH-1(H2)
Rock Drills					
Screens					
Enclosed Storage					
Other					
Other					
Other					

7. Provide a diagram and/or schematic that shows the proposed process of the operation or plant. The diagram and/or schematic is to show all sources, components and facets of the operation or plant in an understandable line sequence of the operation. The diagram should include all the equipment involved in the operation; such as conveyors, transfer points, stockpiles, crushers, facilities, vents, screens, truck dump bins, truck, barge and railcar loading and unloading, etc. Appropriate sizing and specifications of equipment should be included in the diagram. The diagram shall logical follow the entire process load-in to load-out.

8. Roads

	Paved Miles of Road	Unpaved Miles of Road	Watered		Other Control (Specify)
			Miles	Frequency	
Plant Yard	NA				
Access Roads					

9. Vehicle Type

Vehicle Type	Mean Vehicle Speed in mph	Mean Vehicle Weight in Tons		Number of Wheels	Distance Traveled per Round Trip	
		Empty	Full		Paved Feet or Miles	Unpaved Feet or Miles
Raw Aggregate	NA					
Loaders						
Product Trucks						
Other						
Other						
Other						
Other						

10. Describe all proposed materials storage facilities associated with the **Emission Units** listed.
Existing storage piles will be utilized.

Storage Activity

ID of Emission Unit					
Type Storage					
Material Stored					
Typical Moisture Content (%)					
Avg % of material passing through 200 mesh sieve					
Maximum Total Yearly Throughput in storage (tons)					
Maximum Stockpile Base Area (ft^2)					
Maximum Stockpile height (ft)					
Dust control method applied to storage					
Method of material load-in to bin or stockpile					
Dust control method applied during load-in					
Method of material load-out to bin or stockpile					
Dust control method applied during load-out					

Storagepiles	**Estimated Annual Tons**	**Turnover Rate (Ton/Month)**	**Wetted as Piled**	**Number of Sides Enclosed**	**Other Dust Control**	**Loading Method** (Loader, Conveyor) **IN/OUT**
Coarse: over 1"						
Fine: 1" to ¼"						
¼" and less						
MFG. Sand						
Other, specify						

Conveying and Transfer

Describe the conveying system including transfer points associated with proposed Emission Units (crushers, etc...).

1 - Front end loader delivers fines to hopper (H1)
2 - Hopper (H1) to Belt Conveyor (BC-1)
3 - Belt Conveyor (BC-1) to charge hopper (H2)
4 - Charge Hopper (H2) to induction furnace (F1)
5 - Slag removed to existing storage pile
6 - Molten melt to ignot or crucile
7 - crucile back to production units
8 - ignot to shipping

Describe any methods of emission control to be used with these proposed conveying systems:

ID of Emission Unit	Type Conveyor or Transfer Point	Material Handled [Note nominal size of material transferred (e.g. ¾" × 0)]	Material Conveying or Transfer Rate		Dust Control Measures Applied	Approximate Material Moisture Content (%)
			Max. TPH	Maximum TPY		
BC1	BC - Belt Conveyor		3.75	32,850	N - None	4.5
TP1	OTH - Other (specify in fc		3.75	32,850	MD - Minimization of Ma	4.5
TP2	OTH - Other (specify in fc		3.75	32,850	MD - Minimization of Ma	4.5
TP3	OTH - Other (specify in fc		3.75	32,850	MD - Minimization of Ma	4.5
TP4	OTH - Other (specify in fc		3 75	32,850	MD - Minimization of Ma	4.5
TP5	OTH - Other (specify in fc		3.75	32,850	OTH - Other (specify in	4.5
TP6	OTH - Other (specify in fc		3.75	32,850	MD - Minimization of Ma	4.5

Crushing and Screening

ID of Emission Unit						
Type Crusher or Screen						
Material Sized						
Material Sized Throughput:						
Tons/hr						
Tons/yr						
Material sized from/to						
Typical moisture content as crushed or screened (%)						
Dust control methods applied						
Stack Parameters:						
Height (ft)						
Diameter (ft)						
Volume (ACFM)						
Temp (°F)						
Maximum operating schedule:						
Hour/day						
Day/year						
Hour/year						
Approximate Percentage of Operation from:						
Jan – Mar						
April – June						
July – Sept						
Oct – Dec						
Maximum Particulate Emissions:						
LB/HR						
Ton/Year						

Please fill out a separate Air Pollution Control Device Sheet for each Emission Unit equipped with an air pollution control system.

What type of stone will be quarried at this site?

NA

How will it be quarried?

- ☐ Sawing
- ☐ Blasting
- ☐ Other, Specify:

If blasting is checked, complete the following:

- ☐ Frequency of blasting:
- ☐ What method of air pollution control will be employed during drilling and blasting?

Attachment M
Air Pollution Control Device Sheet
(BAGHOUSE)

Control Device ID No. (must match Emission Units Table): BH1

Equipment Information and Filter Characteristics

1. Manufacturer: wheelebrator
Model No. n/a - shaker

2. Total number of compartments: 6

3. Number of compartment online for normal operation: 6

4. Provide diagram(s) of unit describing capture system with duct arrangement and size of duct, air volume, capacity, horsepower of movers. If applicable, state hood face velocity and hood collection efficiency.

5. Baghouse Configuration: (check one)
☐ Open Pressure ☐ Closed Pressure ☒ Closed Suction
☐ Electrostatically Enhanced Fabric
☐ Other, Specify

6. Filter Fabric Bag Material:
☐ Nomex nylon ☐ Wool
☐ Polyester ☐ Polypropylene
☐ Acrylics ☐ Ceramics
☐ Fiber Glass
☐ Cotton Weight oz./sq.yd
☐ Teflon Thickness in
☒ Others, specify nanofiber on cellulose

7. Bag Dimension:
Diameter 13.8 in.
Length 2.1667 ft.

8. Total cloth area: 2280 ft^2

9. Number of bags: 12 cartridges (2 per compartment)

10. Operating air to cloth ratio: 3.07 ft/min

11. Baghouse Operation: ☐ Continuous ☐ Automatic ☒ Intermittent

12. Method used to clean bags.
☐ Mechanical Shaker ☐ Sonic Cleaning ☐ Reverse Air Jet
☐ Pneumatic Shaker ☐ Reverse Air Flow ☐ Other:
☐ Bag Collapse ☐ Pulse Jet
☐ Manual Cleaning ☐ Reverse Jet

13. Cleaning initiated by:
☒ Timer ☐ Frequency if timer actuated
☐ Expected pressure drop range in. of water ☐ Other

14. Operation Hours: Max. per day: 16
Max. per yr: 5844

15. Collection efficiency: Rating: 99.9 %
Guaranteed minimum: 99.9 %

Gas Stream Characteristics

16. Gas flow rate into the collector: 8000 ACFM at Ambient °F and Standard (14.84) PSIA
ACFM: Design: 8000CFM PSIA Maximum: 9450 CFM PSIA Average Expected: 8000CFM

17. Water Vapor Content of Effluent Stream: ambient air lb. Water/lb. Dry Air

18. Gas Stream Temperature: ambient °F

19. Fan Requirements: 60 hp
OR
ft^3/min

20. Stabilized static pressure loss across baghouse. Pressure Drop:
High 6 in. H_2O
Low 1 in. H_2O

21. Particulate Loading: Inlet: .07696 grain/scf Outlet: .00076960 grain/scf

22. Type of Pollutant(s) to be collected (if particulate give specific type):
particulate matter - dust

23. Is there any SO_3 in the emission stream? ☒ No ☐ Yes SO_3 content: ppmv

24. Emission rate of pollutant (specify) into and out of collector at maximum design operating conditions:

Pollutant	IN		OUT	
	lb/hr	grains/acf	lb/hr	grains/acf
PM	1.50	0.0218	0.06	0.0009
PM10	0.71	0.0104	0.03	0.0004

25. Complete the table:

Particulate Size Range (microns)	Particle Size Distribution at Inlet to Collector Weight % for Size Range	Fraction Efficiency of Collector Weight % for Size Range
0 – 2	unknown	unknown
2 – 4	unknown	unknown
4 – 6	unknown	unknown
6 – 8	unknown	unknown
8 – 10	unknown	unknown
10 – 12	unknown	unknown
12 – 16	unknown	unknown
16 – 20	unknown	unknown
20 – 30	unknown	unknown
30 – 40	unknown	unknown
40 – 50	unknown	unknown
50 – 60	unknown	unknown
60 – 70	unknown	unknown
70 – 80	unknown	unknown
80 – 90	unknown	unknown
90 – 100	unknown	unknown
>100	unknown	unknown

26. How is filter monitored for indications of deterioration (e.g., broken bags)?
- ☐ Continuous Opacity
- ☒ Pressure Drop
- ☐ Alarms-Audible to Process Operator
- ☐ Visual opacity readings, Frequency:
- ☐ Other, specify: pressure gauge monitoring & recording

27. Describe any recording device and frequency of log entries:
visual monitoring of stack each start-up/shift change
pressure (photohelic) guage reading and recording each start-up/shift change - pressure must be between 1 & 6

28. Describe any filter seeding being performed:
none

29. Describe any air pollution control device inlet and outlet gas conditioning processes (e.g., gas cooling, gas reheating, gas humidification).
none

30. Describe the collection material disposal system:

Waste material automatically drops via chute into an enclosed 55 gallon steel drum.
Chute sits below the upper rim of the drum to eliminate chance of emissions or spillage.
Full drums are sealed with a steel lid and entire drum is disposed of to landfill.

31. Have you included ***Baghouse Control Device*** in the Emissions Points Data Summary Sheet? Yes

32. **Proposed Monitoring, Recordkeeping, Reporting, and Testing**
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING:	RECORDKEEPING:
REPORTING:	TESTING.

MONITORING:	Please list and describe the process parameters and ranges that are proposed to be monitored in order to demonstrate compliance with the operation of this process equipment or air control device.
RECORDKEEPING:	Please describe the proposed recordkeeping that will accompany the monitoring.
REPORTING:	Please describe any proposed emissions testing for this process equipment on air pollution control device.
TESTING:	Please describe any proposed emissions testing for this process equipment on air pollution control device.

33. Manufacturer's Guaranteed Capture Efficiency for each air pollutant.

34. Manufacturer's Guaranteed Control Efficiency for each air pollutant.

35. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty.

NEW HAVEN PLANT

YEARLY EMISSIONS INCREASE - TONS PER YEAR

Air Pollutants	Current	Proposed Increase / Decrease	UPDATED EQUIPMENT		
			Proposed	Induction furnace	Transfer Points
	Totals TPY	Totals TPY	Totals TPY	Totals TPY	Totals TPY
Criteria Air Pollutants					
Total Particulate Matter	-	10.19	10.19	0.26	9.93
PM-10	-	4.82	4.82	0.12	4.70
PM-2.5	-	1.52	1.52	0.04	1.48
Sulfur Dioxide	-	-	0.00	0.00	0.00
Nitrogen Oxides	-	-	0.00	0.00	0.00
Carbon Monoxide	-	-	0.00	0.00	0.00
VOCs	-	-	0.00	0.00	0.00
Hazardous Air Pollutants					
Formaldehyde	0.00000	-	0.00	0.00	0.00
Benzene	0.00000	-	0.00	0.00	0.00
Toluene	0.00000	-	0.00	0.00	0.00
Xylene	0.00000	-	0.00	0.00	0.00
Naphthalene	0.00000	-	0.00	0.00	0.00
1,3-Butadiene	0.00000	-	0.00	0.00	0.00
Acetaldehyde	0.00000	-	0.00	0.00	0.00
Acrolein	0.00000	-	0.00	0.00	0.00
Total HAPs	0.00000	-	0.00	0.00	0.00
Green house Gases					
CO2	0.00	-	0.00	0.00	0.00

Notes:

1. HAP Metals are included in total PM. HAP VOCs are included in the VOC total.
2. PM-10 is included in the total particulate matter and is not double counted in total regulated air emissions.
3. Values less than 1e-5 are shown as negligible.

NEW HAVEN PLANT

YEARLY EMISSIONS INCREASE - POUNDS PER HOUR

Air Pollutants	Current	Proposed Increase / Decrease	UPDATED EQUIPMENT		
			Proposed	Crushing & Screening Screening	Transfer Points
	Totals PPH	Totals PPH	Totals PPH	Totals PPH	Totals PPH
Criteria Air Pollutants					
Total Particulate Matter	-	2.33	2.33	0.06	2.27
PM-10	-	1.10	1.10	0.03	1.07
PM-2.5	-	0.35	0.35	0.01	0.34
Sulfur Dioxide	-	-	-	-	-
Nitrogen Oxides	-	-	-	-	-
Carbon Monoxide	-	-	-	-	-
VOCs	-	-	-	-	-
Hazardous Air Pollutants					
Formaldehyde	0.00000	-	-	-	-
Benzene	0.00000	-	-	-	-
Toluene	0.00000	-	-	-	-
Xylene	0.00000	-	-	-	-
Naphthalene	0.00000	-	-	-	-
1,3-Butadiene	0.00000	-	-	-	-
Acetaldehyde	0.00000	-	-	-	-
Acrolein	0.00000	-	-	-	-
Total HAPs	0.00000	-	-	-	-
Green house Gases					
CO2	0.00	-	-	-	-

Notes:

1. HAP Metals are included in total PM. HAP VOCs are included in the VOC total.
2. PM-10 is included in the total particulate matter and is not double counted in total regulated air emissions.
3. Values less than 1e-5 are shown as negligible.

TRANSFER POINTS

Worst Case Throughput:		
	tph	tpy
Induction furnace	3.75	32,850

Per AP-42 13.2.4 (11/06):

e = 0.120

Transfer Point ID No.	Worst Case Throughput (TPH)	Worst Case Throughput (TPY)	Emission Factor (lb/ton)	Particulate Matter Emissions: Uncontrolled PM Emissions (PPH)	Uncontrolled PM Emissions (TPY)	Uncontrolled PM-10 Emissions (PPH)	Uncontrolled PM-10 Emissions (TPY)	Control Device ID	Capture Eff (%)	Removal Eff (%)	Control Eff (%)	Controlled PM Emissions (PPH)	Controlled PM Emissions (TPY)	Controlled PM-10 Emissions (PPH)	Controlled PM-10 Emissions (TPY)	Material Type
TP1	3.75	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	PE	0	[illegible]	0.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TP2	3.75	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	PE	0	0	0.00	[illegible]	1.071	[illegible]	[illegible]	Product
TP3	3.75	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	PE	0	[illegible]	0.00	[illegible]	[illegible]	[illegible]	[illegible]	Product
TP4	3.75	[illegible]	[illegible]	[illegible]	1.07	[illegible]	[illegible]	PE	95	95	95.04	[illegible]	[illegible]	[illegible]	[illegible]	Product
TP5	3.75	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	PE	0	[illegible]	0.00	[illegible]	[illegible]	[illegible]	[illegible]	Product
TP6	3.75	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	PE	0	[illegible]	0.00	[illegible]	[illegible]	[illegible]	[illegible]	Product

	PM		PM-10	
UNCONTROLLED EMISSION TOTALS:	PPH	TPY	PPH	TPY
	2.70	11.83	1.28	5.59

	PM 2.5	
UNCONTROLLED EMISSION TOTAL	PPH	TPY
	0.40	1.76

	PM		PM-10	
CONTROLLED EMISSION TOTALS:	PPH	TPY	PPH	TPY
	2.27	9.93	1.07	4.70

	PM-2.5	
CONTROLLED EMISSION TOTALS:	PPH	TPY
	0.34	1.48

Induction Furnace

Worst Case Throughput:		
	tph	tpy
Induction furnace	3.75	32,850

Per Ohio EPA permit 0.40 lb PE/ton

Particulate Matter Emissions														
Source ID	Worst Case Throughput (TPH)	(TPY)	Emission Factor (lb/ton)	Uncontrolled PM Emissions (PPH)	(TPY)	Uncontrolled PM-10 Emissions (PPH)	(TPY)	Control Device I.D.	Capture Eff (%)	Removal Eff (%)	Control Eff (%)	Controlled PM Emissions (PPH)	(TPY)	Controlled PM-10 Emissions (PPH)	(TPY)	Materia Type
F1	3.75	32,850	0.40	1.50	6.57	0.71	3.11	BH	98%	95%	0.95	0.075	0.329	0.036	0.156	Product

	PM		PM-10	
UNCONTROLLED EMISSION TOTALS:	PPH	TPY	PPH	TPY
	1.50	6.57	0.71	3.11

	PM 2.5	
UNCONTROLLED EMISSION TOTAL	PPH	TPY
	0.22	0.98

	PM		PM-10	
CONTROLLED EMISSION	PPH	TPY	PPH	TPY
	0.06	0.26	0.03	0.12

	PM-2.5	
CONTROLLED EMISSION	PPH	TPY
	0.01	0.04

Attachment O
Monitoring / Recordkeeping / Reporting / Testing Plans

Felman Production, LLC proposes to monitor, maintain records, and report as required by the issued permit.

Monitoring
Throughput
Operating hours
Use of emission controls

Recordkeeping
The company will retain records for five (5) years, two (2) years on site, certified by a company official at such time that the DAQ may request records.

- Throughput
- Operating Hours

Reporting
It is proposed the facility be subject to the reporting requirements outlined in Section 3.5, 4.5, and 5.5 of the Title V Permit Number R30-05300004-012 which include an Annual Certified Emission Statement, Annual Title V Compliance Certification, and Semi-Annual Monitoring Report.

Testing
Existing Testing:
40CFR60 Subpart OOO requires opacity testing for the screener when it is sizing coal.
40CFR60 Subpart XXX requires an opacity test for the crusher and screen when it is sizing silicomanganese or the slag from production of silicomanganese.

Attachment P
Public Notice

Air Quality Permit Notice
Notice of Application

Notice is given that Felman Production LLC has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a Rule 13 Temporary Permit Application for a Inductotherm Induction Furnace. Approximately 4 miles east of New Haven adjacent to US Rt. 33 in Mason County, West Virginia. Latitude: 38.95750, Longitude: 81.92643. The applicant estimate the increased potential to discharge the following Regulated Air Pollutants will be:
Total Particulate Matter:
PM – 10.33 TPY
PM10 – 4.89 TPY
PM2.5 – 1.54 TPY

Start-up of operation will be June 2015. Written comments will be received by the West Virginia Department of Environmental Protection, Division of Air Quality, 601 57th St. SE, Charleston, WV 25304, for at least 30 calendar days from the date of publication of this notice.

Any questions regarding this permit application should be directed to the DAQ at (304) 926-0440, ext. 1227, during normal business hours.

By: Felman Production, LLC
Phil Gardner
Plant Manager
4442 Graham Station Road
Letart, WV 25251 (04), 12